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Title: Invariance of Bajraktarevič mean with respect to quasi arithmetic means

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Without any regularity conditions, we determine all Bajraktarevič means $B^{[f,g]}(x, y) := \left(\frac{f}{g}\right)^{-1}\left(\frac{f(x)+f(y)}{g(x)+g(y)}\right)$ which are invariant respect to the mean-type mapping $(A^{[f]}, A^{[g]})$ where $A^{[f]}$ denotes the quasi-arithmetic mean generated by f . The case of weighted quasi-arithmetic means is also considered. Applications in iteration theory and functional equation are included. A relation of the invariance of means and their “harmony” is mentioned.

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